REMARKS

STATUS OF APPLICATION

This reply is responsive to the First Office Action mailed 3/27/07. Currently, Claims 1-17 are pending, Claims 1, 6, 7, and 17 are independent. Claims 1, 6, and 7 are currently amended, Claims 2-5 remain as originally filed, and Claims 8-17 are new claims.

In the First Office Action of 3/27/07 the Examiner rejected Claims 1, 4-7 as being unpatentable over Razdan et al. US 2005/0168460 "Razdan" in view of Akira JP Application number 10-224115 "Akira." The Examiner also rejected Claims 2 and 3 as being unpatentable over the Razdan-Akira combination in view of Dessureault et al. (7,065,476) "Dessureault."

SUMMARY OF EXAMINER'S REJECTION OF CLAIM 1

The Examiner's proposed combination of Razdan in view of Akira fails to disclose all the features of Claims 1, 4-6, and 7 as amended. Additionally, the Examiner's proposed combination of Razdan in view of Akira in view of Dessureault fails to disclose all the features of Claims 2 and 3.

Razdan discloses a computer system and method for the storage, archiving, query and retrieval of information relating to 3D objects (Abstract). The system can be used within a distributed environment to catalog, organize, and support interaction 3D materials and objects at a feature-based level. [0003]. The system includes a processor operable to generate modeled data from the point coordinate data and to segment the modeled data into feature data representing a plurality of features of the object. [0006]. The data is organized so that features of the 3D object can be automatically extracted for outline query and retrieval.

The copy of the Akira reference provided by the Examiner appears to be machine translated, and is not presented in standard English. As best understood, the Akira system is concerned with transmitting a two dimensional representation of 3D data over the web. In this system the user selects on a particular pixel (dot) of the image to download the 3D data for that particular section of the object. [0037-0038] and [0013-0014]. The major advantage of using the Akira device appears to be it allow a user to use a normal web browser to select which component of the 3D object the user wishes to download. This reduces the amount of data the user must download, but only providing the particular data of interest to the user. [0005].

To combine these two references, the Examiner said that it would have obvious to incorporate the linkage information taught by Akira into the 3D data acquisition means of Razdan, because it would reduce the quantity of data transfer for 3D configuration retrieval. Neither Claim 1 nor the Examiner's discussion of Claim 1 discloses what the Examiner meant by "linkage information, but" as best understood, the Examiner looked to the teachings of Akira to add the storing means 3 and the control section 11 (which the Examiner asserts are equivalent to the information storing unit and the shape information linkage control unit respectively) to the Razdan system.

CLAIM 1 IS PATENTABLE OVER THE RAZDAN-AKIRA COMBINATION

The Examiner's proposed combination does not disclose all the features of Claim 1 as amended. The Examiner proposed combination does disclose a generation unit as claimed, nor does it disclose a control unit as claimed. Claim 1 as amended, requires, in part,

> a three dimensional shape information generation unit for generating at *least two types* of shape information related to each shape element *based on parameters entered by a user*...
>
> shape information linkage control unit for, while referring to said linkage identifier, linking and processing *said at least two* types of shape information related to a particular shape element *selected by the user, wherein said linking is performed by sending and receiving the linkage identifier for the shape element.*

The Examiner's Proposed Combination does not Disclose a Generation Unit as Claimed.

In the last Office action, the Examiner's discussion of Razdan suggests that the Examiner equates the data acquisition device 130 to the information generation unit. Razdan's disclosure of the data acquisition device 130 in paragraph 86 is as follows:

> One or more data acquisition devices 130 can be used to generate raw 3D data about an object and to input the raw 3D data to the server 102. Some examples of suitable data acquisition devices 130 include laser scanners for acquiring 3D surface data and MM scanners, CAT scanners or Laser Confocal Microscopes for acquiring 3D volume data. It will be understood, however, that the data acquisition devices 130 can include any device that generates digitized 3D data from an object.

Claim 1 as amended requires a generation unit for "generating *at least two* types of shape information related to each shape element *based on parameters entered by a user*." (Emphasis added). Though Razdan discloses an acquisition device (which the Examiner's suggests is equivalent to the generation unit), he does not disclose a generation unit for generating *at least two* types of shape information. As evidenced by the disclosure above, Razdan is silent as to the number of types of shape information that is generated by the shape information generation unit. Additionally, Razdan does not disclose that the shape information is related each shape element *based on parameters entered by a user.* Razdan disclosure merely states that the acquisition device generates raw 3D data about an object, and does not disclose that the generation of the data is *based on parameters entered by a user.* Therefore Razdan does not disclose a generation unit as claimed.

Akira is not sufficient to remedy the shortcomings of Razdan because Akira does not disclose the "three dimensional shape information generation unit for generating at least two types of shape information related to each shape element based on parameters entered by a user" either. The combination suggested by the Examiner proposes to add an equivalent component for the "shape information storing unit" and the "shape information linkage control unit" from Akira to the Razdan system. However, neither of these components are relevant to the information generation unit of Razdan, and so the combination suggested by the Examiner does not remedy the shortcomings of Razdan alone, because neither Razdan nor Akira discloses a "shape information generation unit" as claimed. Therefore, neither Razdan nor Akira alone or in combination with each other discloses all of the features of Claim 1.

The Examiner's Proposed Combination does not Disclose a Control Unit as Claimed.

Claim 1, as amended, also requires a shape information linkage control unit for, while referring to said linkage identifier, linking and processing *said at least two* types of shape information related to a particular shape element *selected by the user, wherein said linking is performed by sending and receiving the linkage identifier for the shape element* (Emphasis added.) As the Examiner acknowledged, Razdan does not disclose a shape information linkage control unit. The Examiner stated that the linkage information taught by Akira should be incorporated into Razdan for the purpose of reducing the quantity of data transfer for 3D configuration retrieval. Page 3, Office action of 3/27/07. The Examiner did not explain what

the Examiner meant by "linkage information," but the Applicant has assumed the linkage information relates to the two components the Examiner says are taught by Akira, the control section and storing means. Pages 2-3, FAOM 3/27/07.

The control section from Akira is not capable of both sending and receiving a linkage identifier, and therefore does not disclose all the features of Claim 1. As best understood, the control section is responsible for sending a two dimensional representation of the 3D data to a VRML component. Akira does say that "it [the link-information creation means] will link to VRML of the components which correspond even if it specify which point with a mouse etc., an image and VRML be use properly…." [0014]. As best understood, the link, created by the link information creation means, points to an image of the 3D data. So while it would be accurate to say that the "control unit *sends* a linkage identifier, it is not true that the control unit *receives* a linkage identifier." Therefore, Akira does not disclose this feature of Claim 1. Claim 1 is therefore patentable over Razdan in view of Akira, because the Examiner admitted Razdan does not disclose a control unit, and the Akira control unit does not disclose a control unit for *linking by sending and receiving a linkage identifier*. Therefore, the Examiner's proposed combination fails to disclose all the features of Claim 1.

Additionally, the control section from Akira is not capable of linking and processing *said at least two* types of shape information. As disclosed by Akira, the user can use a mouse to click the "three dimensions configuration of the components which correspond for every dot of each image since it be the aggregate of each display dot can be create automatically…" [0014]. Applicant understands this to mean that each three dimensional configuration component will have a corresponding dot on the two dimensional representation of that configuration. Claim 1 requires a control unit "for linking and processing [at] least two types of shape information related to a particular shape element," and Akira discloses there is only one spot corresponding to each three dimensions configuration. Therefore even if Akira was combined with Razdan, the resulting combination would not contain a "control unit for…linking and processing said at least *two* types of shape information," and therefore the proposed combination would not disclose all the features of Claim 1.

CLAIMS 2 AND 3 ARE PATENTABLE OVER THE PROPOSED RAZDAN-AKIRA-DESSUREAULT COMBINATION

As to Claims 2 and 3, the Examiner sought to combine the teaching of Dessureault with the Razdan-Akira system. Dessureault discloses a business drawing tool which adds additional design details to an object as decisions about the object are made. The teachings of Dessureault do not relate to the shape information linkage control unit of the Razdan-Akira combination, and therefore Claims 2 and 3 are patentable over the Razdan-Akira combination in view of Dessureault for the same reasons that the Razdan-Akira combination does not disclose the linkage control unit of Claim 1.

CLAIM 4 IS PATENTABLE OVER THE RAZDAN-AKIRA COMBINATION

Though the Examiner is required to explain what features are lacking in the primary reference when performing a Graham v Deer analysis, the Examiner proceeded to state the rejection without discussing what features of the claim are lacking in Razdan. Because the Examiner relied exclusively on Akira to teach all the features of the claim, the Applicant assumes the Examiner concluded that Razdan alone does not disclose the additional features of Claim 4.

To meet Razdan's shortcomings, the Examiner relied upon Akira's disclosure and stated that the linkage identifier setup unit generates linkage identifiers based on information concerning said shape elements included in said three dimensional shape data. The Examiner cites Claim 1 for support for this rejection, but the proposed Razdan-Akira combination of Claim 1 equated the master identification number (from Razdan) to the linkage identifier setup unit in Claim 1. The Examiner never suggested that any modification to the master identification number from Razdan should be made. Thus the Examiner's statement that Akira discloses the linkage identifier setup unit lacks any support from Claim 1, and is inconsistent with the position the Examiner took with relation to Claim 1. The Razdan-Akira combination of Claim 1 uses Razdan's teaching of a master identification number, and does not rely on Akira's disclosure for a corresponding linkage identifier setup unit. The Examiner reliance of Akira's disclosure of a linkage identifier fails to make a *prima facie* case of unpatentability for Claim 4, and the Applicant kindly requests the Examiner withdraw the rejection of Claim 4, because the teachings of Akira with respect to the linkage identifier setup are not relevant to the Examiner proposed combination in Claim 1.

CLAIM 5 IS PATENTABLE OVER THE RAZDAN-AKIRA COMBINATION

The Examiner relies exclusively on paragraphs [0032-0037] to support the Examiner's position that Akira discloses all of Claim 5. The Examiner does not disclose which parts of Akira relate to the information processing module, linkage control module, or linkage identifier. There are no components in sections [0032-0037] which meet all the features of these elements as claimed. More specifically, Akira does not disclose a plurality of information processing modules for displaying shape information, nor does Akira disclose a linkage control module connected to the information process modules. Additionally, Akira does not disclose a linkage identifier corresponding to a shape element related to the shape information displayed by the information processing module. Akira, also does not disclose that the linkage identifier corresponding to the shape element is sent to the linkage control module, and that linkage control module sends said identifier to each information processing module so that each information processing modules changes its display to correspond to the linkage identifier.

Claim 5 requires a processing module to send the linkage identifier to the linkage control module, which then sends the linkage identifier to each information processing module. None of the components described by Akira in section [0032-0037] manipulate a linkage identifier in this manner. As best understood, the several components in Akira create and send an HTML link which provides a web browser with the location of a two dimensional representation of the 3D data. As best understood, the Akira reference sends a linkage identifier from the control section causing the VRML output control section to output VRML information. Presumably, the HTML creation control section uses the VRML information to make an HTML link. Akira never discloses that the link is passed back to the control section or the VRML output control section, and therefore Akira does not disclose all the features of Claim 5.

CLAIMS 6 AND 7 ARE PATENTABLE OVER THE RAZDAN-AKIRA COMBINATION

The Examiner did not provide a separate rationale for rejecting Claims 6 and 7. The Applicant, presumes the Examiner meant that the combination proposed for Claim 1 applies with equal force to Claims 6 and 7, with the noted caveat that Razdan discloses a computer

software program for acquiring shape information. The combination proposed for Claim 1 does not disclose all the features of Claims 6 and 7 as amended, for the same reasons as discussed above. More specifically, in Claim 6 the Razdan-Akira combination fails to disclose "a system for … linking and processing among the various types of shape information related to said at least one shape element; *said linking being performed by sending and receiving a linkage identifier."* The Razdan-Akira combination also fails to disclose "a three-dimensional shape information generation unit for generating, *at least two types* of shape information related to each shape *element based on parameters entered by a user."* As for Claim 7, the proposed Razdan-Akira combination does not disclose "a three-dimensional shape information generation command unit, stored in said computer-readable storage medium, for generating *at least two* types of shape information related to said at least one shape *element based on parameters entered by a user.*" Additionally, the proposed combination does not disclose "a shape information linkage control unit for linking and processing said at least *two types of shape information* related to a particular shape element selected by the user, wherein said linking is performed by *sending* and *receiving* the linkage identifier for the shape element."

CLAIMS 8-17 ARE PATENTABLE OVER RAZDAN, AKIRA, OR DESSUREAULT ALONE OR IN COMBINATION

Claim 8 is dependant on Claim 1 and is patentable for all the reasons set forth above. Additionally, Claim 8 requires the three-dimensional shape data to contain a shell, a group, a layer, and attribute information. Neither Razdan, Akira, nor Dessureault (collectively "the cited references") disclose a system for acquiring three dimensional shape data comprising a shell, a group, a layer, and attribute data. Pages 6, lines 13- page 7 line 10 provide that three dimensional shape data may comprise a shell, a group, a layer, and attribute information.

Claims 9-10 specify additional attributes concerning the group and the layer. More specifically, Claim 9 says that "the groups within the shape data is expressed by groups having hierarchical structures, and the group comprises an end group in a hierarchical structure containing at least one shell," and Claim 10 says that "the layer is defined independently from the physical structure which expresses the actual object of the shape." Because the cited references do not disclose a group or a layer as claimed in Claim 8, the cited references do not

disclose the more specific features of Claim 9 and 10. Support for Claim 9 can be found on page 6, lines 20-25, and support for Claim 10 can be found on page 6, line 26 – page 7, line 3.

Claim 11 specifies "that the shape information generation unit for acquiring an attribute table for providing group information containing linkage identifier and attribute information," and Claim 12 specifies, "the shape information generation unit for acquiring an attribute table for providing layer information containing linkage identifier and attribute information." Figures 7 and 10, page 4 lines 24, and 29, page 8 lines 6-10, and 29, and originally filed Claim 3 disclose the attribute table. Claims 11 and 12 are dependent on Claim 8 and are patentable over the cited references for the same reasons as set forth above, and because the cited references do not disclose a shape information generation unit that is capable of creating an attribute table.

Claims 13 and 14 specify additional details relating to the attribute table particularly that the table is configured to summarize information of the numerical values or character strings established in groups or layers. Claims 13 and 14 are dependent on Claims 11 and 12 are patentable over the cited references for the same reasons as set forth above, and because the cited references do not disclose the a shape information generation unit capable of creating an attribute table configured to summarize information of the numeral values or character strings established in the groups or layers.

Claim 15 specifies that the shape information linkage control unit comprises a corresponding shape information processing module for each of the at least two types of shape information for specifying the shape element corresponding to the linkage identifier, and displaying the shape information of the shape element on a display system. Additionally, Claim 15 specifies that the shape information linkage control unit is for receiving the linkage identifier from the shape information processing module corresponding to one of the at least two types of the shape information and sending the linkage identifier to the shape information processing module corresponding to the other type of the at least two types of the shape information. The cited references do not disclose a shape information processing module for each type of shape information as claimed. Additionally, the cited references do not disclose the linkage control unit *for receiving* the linkage identifier from the information processing module and *for sending* the linkage identifier to the shape information processing module.

Support for the claim 15 can be found on page 3, lines 1-10; page 7, lines 22-26, page 9, lines 21-29; and originally filed Claim 5.

Claim 16 specifies that the three dimensional data acquisition unit is configured to acquire data in the XVL format. The cited references do not disclose a data acquisition configured to acquire data in the XVL format. Support for Claim 16 can be found on page 6, line 17.

Claim 17 is similar to originally filed Claim 1 with most of the features of new Claim 8 added. The cited references do not disclose all the features of Claim 17, because the cited references do not disclose a system according to Claim 17 comprising a three dimensional shape data acquisition unit for acquiring shape data which comprises a shell, a group, a layer, and attribute information. Support for Claim 17 can be found on pages 6-7 and Claim 1 as originally filed.

CONCLUSION

In view of the foregoing amendment and remarks, it is believed that the claims in this application are now in condition for allowance. Early and favorable reconsideration is respectfully requested.

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